Region 9

Arizona, California, Hawaii, Nevada

Community Avoids Costly Fines

Patagonia WWTP, Arizona

When Gail Hackney, a 104(g)(1) technical assistance provider from the Pima Community College Arizona State Environmental Technology Training Center, began working with the Patagonia WWTP, the plant was in daily violation for chlorine and total suspended solids. Without any changes to the system and its operation, the town could have been fined as much as $50,000 each day of the 18 months it was out of compliance. Excessive pollutants were being discharged into an environment that is home to coyotes, deer, mountain lions, desert tortoises, and over 260 species of birds.

The assistance at Patagonia WWTP prevented approximately 100 pounds per month of total suspended solids from being released into the environment during a year and a half time period.

In this ongoing project, Hackney has helped the system by providing operator training and suggesting repairs to the system, including disinfection, flow monitoring, and solids handling. She also has served as an intermediary between the operators and the town council to increase operator pay and to allocate funding for improvements needed to fully meet the system's permit requirements.

The assistance is estimated to have cost less than $5,000 in 104(g)(1) funds. The 104(g)(1) assistance resulted in significant savings to the town in consulting costs and deferred fines. In addition, the intervention prevented approximately 100 pounds per month of total suspended solids from being released into the environment over the past year and a half.

Underused System Learns to Optimize Operations

City of Yerington WWTP, Nevada

Increased demand caused by unexpected growth is a common problem at wastewater treatment plants. Sometimes, though, less demand than expected can leave a community with a more expensive operation than it needs.

Officials in the City of Yerington, Nevada, believed that their wastewater treatment plant was being underutilized. Their facility consisted of two complete mix ponds, followed by two large polishing ponds with mechanical aeration. For several years, the strength of sewage in the plant was moderate to weak. The plant was meeting its discharge limits, but the clarity of water in the final two ponds promoted algae growth that had a measurable impact on effluent biochemical oxygen demand and total suspended solids concentrations. Because of these conditions, city

officials wanted to reduce the aeration operation. They looked to 104(g)(1) technical assistance providers from Nevada's Division of Environmental Protection for an evaluation of their planned approach.

The Yerington plant now uses half of its potential capacity and has reduced its power requirements from 95 to 40 horsepower. This reduction saves the city approximately $20,000 a year.

A 104(g)(1) technical assistance provider worked with the utility manager, plant operator, and design engineer to assess the community's actual aeration requirements. Dissolved oxygen concentrations in all ponds and biochemical oxygen demand from the first pond were measured. Results indicated that the oxygen present was more than what was needed to adequately treat incoming wastes and continue permit compliance. The 104(g)(1) technical assistance provider, therefore, recommended that the city go ahead with a new aeration schedule and new flow configuration.

The Yerington plant now uses half of its potential capacity and has reduced its power requirements from 95 to 40 horsepower. This reduction saves the city approximately $20,000 a year. The plant has continued to maintain permit compliance and, based on recent sampling results, is producing an even higher quality effluent than before. Project costs for this 104(g)(1) assistance were approximately $500.

Objective Advice Aids Small Town

Town of Alamo WWTP, Nevada

Small towns generally cannot afford to have experts on their payroll. This sometimes leaves them to the mercy of outside experts. Technical assistance providers in the 104(g)(1) program, however, can serve as the small town's experts and can question outside professional advice on the town's behalf. This is how the 104(g)(1) program served the small town of Alamo, Nevada.

Town officials were aware that their aging wastewater treatment plant required upgrading. Flows were approaching plant design capacity, the effluent's nitrate level was too high, and the lift station was deteriorating. In addition, the town's sewer rates were barely sufficient to pay the $400,000 still owed on the existing plant, much less to carry the cost of any upgrades. Based on these concerns, the town hired an engineering firm that designed an upgrade that would expand the facility's treatment capacity from 85,000 to 600,000 gallons per day.

The 104(g)(1) program at the Nevada Division of Environmental Protection reviewed the proposed design and helped the town evaluate the proposal and address potential design problems.

In February 1999, a town board meeting was held at which 104(g)(1) representatives were able to present their evaluation of the proposed design. In addition, the board was given information explaining the Nevada Division of Environmental Protection's permitting and design approval processes and tips on selecting and working with consulting engineers.

Nevada Program Uses Unique Approach to Delivering Assistance

Nevada applies the 104(g)(1) program in conjunction with a private contracting firm, with an eye toward stretching their 104(g)(1) dollars as far as possible.

To encourage and maintain compliance in the state's 43 small rural treatment systems, Nevada contracts with a private company to perform the field-related aspects of the 104(g)(1) program. The company, SPB Utilities, performs 104(g)(1) activities along with normal company operations throughout the state. The 104(g)(1) technical assistance providers, then, are freed up to spend the majority of their time:

- Offering recommendations about conditions that lead to equipment failure or non-compliance
- Assisting operators in increasing treatment efficiency
- Offering solutions to existing conditions that are causing permit non-compliance
- Analyzing community fee structures to help properly finance treatment systems

"The advantage of this arrangement is that travel costs are substantially reduced, multiple visits are practical, and increased familiarity with a plant and its personnel are achieved," according to Paul Lohman, a 104(g)(1) assistance provider with the Nevada Division of Environmental Protection.

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California

Not currently participating in the 104(g)(1) program

Hawaii

Not currently participating in the 104(g)(1) program

Nevada

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